



SEQUENCE LISTING

<110> Kopin, Alan S.

<120> Assays for Identifying Receptors Having Alterations in Signaling

<130> 00398/512002

<140> US 09/966,871

<141> 2001-09-28

<150> US 60/236,302

<151> 2000-09-28

<150> US 60/288,644

<151> 2001-05-03

<160> 87

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 398

<212> PRT

<213> Homo sapiens

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| Met | Asp | Ser | Ser | Thr | Gly | Pro | Gly | Asn | Thr | Ser | Asp | Cys | Ser | Asp | Pro |
| 1 | | | | 5 | | | | | 10 | | | | 15 | | |
| Leu | Ala | Gln | Ala | Ser | Cys | Ser | Pro | Ala | Pro | Gly | Ser | Trp | Leu | Asn | Leu |
| | | | | 20 | | | | | 25 | | | | 30 | | |
| Ser | His | Val | Asp | Gly | Asn | Gln | Ser | Asp | Pro | Cys | Gly | Leu | Asn | Arg | Thr |
| | | | | 35 | | | | | 40 | | | | 45 | | |
| Gly | Leu | Gly | Gly | Asn | Asp | Ser | Leu | Cys | Pro | Gln | Thr | Gly | Ser | Pro | Ser |
| | | | | 50 | | | | | 55 | | | | 60 | | |
| Met | Val | Thr | Ala | Ile | Thr | Ile | Met | Ala | Leu | Tyr | Ser | Ile | Val | Cys | Val |
| 65 | | | | | 70 | | | | 75 | | | | 80 | | |
| Val | Gly | Leu | Phe | Gly | Asn | Phe | Leu | Val | Met | Tyr | Val | Ile | Val | Arg | Tyr |
| | | | | 85 | | | | | 90 | | | | 95 | | |
| Thr | Lys | Met | Lys | Thr | Ala | Thr | Asn | Ile | Tyr | Ile | Phe | Asn | Leu | Ala | Leu |
| | | | | 100 | | | | | 105 | | | | 110 | | |
| Ala | Asp | Ala | Leu | Ala | Thr | Ser | Thr | Leu | Pro | Phe | Gln | Ser | Val | Asn | Tyr |
| | | | | 115 | | | | | 120 | | | | 125 | | |
| Leu | Met | Gly | Thr | Trp | Pro | Phe | Gly | Thr | Ile | Leu | Cys | Lys | Ile | Val | Ile |
| | | | | 130 | | | | | 135 | | | | 140 | | |
| Ser | Ile | Asp | Tyr | Tyr | Asn | Met | Phe | Thr | Ser | Ile | Phe | Thr | Leu | Cys | Thr |
| 145 | | | | | 150 | | | | | 155 | | | | 160 | |
| Met | Ser | Val | Asp | Arg | Tyr | Ile | Ala | Val | Cys | His | Pro | Val | Lys | Ala | Leu |
| | | | | 165 | | | | | 170 | | | | 175 | | |
| Asp | Phe | Arg | Thr | Pro | Arg | Asn | Ala | Lys | Ile | Val | Asn | Val | Cys | Asn | Trp |
| | | | | 180 | | | | | 185 | | | | 190 | | |
| Ile | Leu | Ser | Ser | Ala | Ile | Gly | Leu | Pro | Val | Met | Phe | Met | Ala | Thr | Thr |
| | | | | 195 | | | | | 200 | | | | 205 | | |
| Lys | Tyr | Arg | Gln | Gly | Ser | Ile | Asp | Cys | Thr | Leu | Thr | Phe | Ser | His | Pro |
| | | | | 210 | | | | | 215 | | | | 220 | | |
| Thr | Trp | Tyr | Trp | Glu | Asn | Leu | Leu | Lys | Ile | Cys | Val | Phe | Ile | Phe | Ala |

| | | | |
|---|-----|-----|-----|
| 225 | 230 | 235 | 240 |
| Phe Ile Met Pro Ile Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Ile | | | |
| 245 | 250 | 255 | |
| Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu Lys Asp | | | |
| 260 | 265 | 270 | |
| Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Ala Val | | | |
| 275 | 280 | 285 | |
| Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile Lys Ala | | | |
| 290 | 295 | 300 | |
| Leu Ile Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp His Phe | | | |
| 305 | 310 | 315 | 320 |
| Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val Leu Tyr | | | |
| 325 | 330 | 335 | |
| Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe Cys Ile | | | |
| 340 | 345 | 350 | |
| Pro Thr Ser Ser Thr Ile Glu Gln Gln Asn Ser Thr Arg Val Arg Gln | | | |
| 355 | 360 | 365 | |
| Asn Thr Arg Glu His Pro Ser Thr Ala Asn Thr Val Asp Arg Thr Asn | | | |
| 370 | 375 | 380 | |
| His Gln Leu Glu Asn Leu Glu Ala Glu Thr Ala Pro Leu Pro | | | |
| 385 | 390 | 395 | |

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Glu Lys Arg Phe Thr Phe Val Leu Ala Val
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Val Leu Val Ser Thr
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Arg Lys Ala Phe Gln Gly Leu Leu Cys Cys Ala
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Ile Ser Tyr Leu Asn Lys Ala Val Ala
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Phe Ile Cys Met
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1 5 10

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Pro Ser Asn Gly Ser Ala Gly Ser Glu Asp Ala Gln Leu Glu Pro Ala
35 40 45
His Ile Ser Pro Ala Asp Pro Val Glu Ile Thr Ala Val Tyr Ser Val
50 55 60
Val Phe Val Val Gly Leu Val Gly Asn Ser Leu Val Met Phe Val Ile
65 70 75 80
Ile Arg Tyr Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn
85 90 95
Leu Ala Leu Ala Asp Ala Leu Val Thr Thr Met Pro Phe Gln Ser
100 105 110
Thr Val Tyr Leu Met Asn Ser Trp Pro Phe Gly Asp Val Leu Cys Lys
115 120 125
Ile Val Ile Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr
130 135 140
Leu Thr Met Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val
145 150 155 160
Lys Ala Leu Asp Phe Arg Thr Pro Leu Lys Ala Lys Ile Ile Asn Ile
165 170 175
Cys Ile Trp Leu Leu Ser Ser Val Gly Ile Ser Ala Ile Val Leu
180 185 190
Gly Gly Thr Lys Val Arg Glu Asp Val Asp Val Ile Glu Cys Ser Leu
195 200 205
Gln Phe Pro Asp Asp Asp Tyr Ser Trp Trp Asp Leu Phe Met Lys Ile
210 215 220
Cys Val Phe Ile Phe Ala Phe Val Ile Pro Val Leu Ile Ile Val
225 230 235 240
Cys Tyr Thr Leu Met Ile Leu Arg Leu Lys Ser Val Arg Leu Leu Ser
245 250 255
Gly Ser Arg Glu Lys Asp Arg Asn Leu Arg Arg Ile Thr Arg Leu Val
260 265 270
Leu Val Val Val Ala Val Phe Val Val Cys Trp Thr Pro Ile His Ile
275 280 285
Phe Ile Leu Val Glu Ala Leu Gly Ser Thr Ser His Ser Thr Ala Ala
290 295 300
Leu Ser Ser Tyr Tyr Phe Cys Ile Ala Leu Gly Tyr Thr Asn Ser Ser
305 310 315 320
Leu Asn Pro Ile Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys
325 330 335

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phe | Arg | Asp | Phe | Cys | Phe | Pro | Leu | Lys | Met | Arg | Met | Glu | Arg | Gln | Ser |
| 340 | | | | | 345 | | | | | | | 350 | | | |
| Thr | Ser | Arg | Val | Arg | Asn | Thr | Val | Gln | Asp | Pro | Ala | Tyr | Leu | Arg | Asp |
| 355 | | | | | 360 | | | | | | | 365 | | | |
| Ile | Asp | Gly | Met | Asn | Lys | Pro | Val | | | | | | | | |
| 370 | | | | | 375 | | | | | | | | | | |

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| Ala | Pro | Ser | Ala | Cys | Leu | Leu | Pro | Asn | Ser | Ser | Ser | Trp | Phe | Pro | Asn |
| | | | | | 20 | | | | | 25 | | | | 30 | |
| Trp | Ala | Glu | Ser | Asp | Ser | Asn | Gly | Ser | Val | Gly | Ser | Glu | Asp | Gln | Gln |
| | | | | | 35 | | | | | 40 | | | 45 | | |
| Leu | Glu | Pro | Ala | His | Ile | Ser | Pro | Ala | Ile | Pro | Val | Ile | Ile | Thr | Ala |
| | | | | | 50 | | | | | 55 | | | 60 | | |
| Val | Tyr | Ser | Val | Val | Phe | Val | Val | Gly | Leu | Val | Gly | Asn | Ser | Leu | Val |
| 65 | | | | | | 70 | | | | 75 | | | 80 | | |
| Met | Phe | Val | Ile | Ile | Arg | Tyr | Thr | Lys | Met | Lys | Thr | Ala | Thr | Asn | Ile |
| | | | | | 85 | | | | | 90 | | | 95 | | |
| Tyr | Ile | Phe | Asn | Leu | Ala | Leu | Ala | Asp | Ala | Leu | Val | Thr | Thr | Thr | Met |
| | | | | | 100 | | | | | 105 | | | 110 | | |
| Pro | Phe | Gln | Ser | Ala | Val | Tyr | Leu | Met | Asn | Ser | Trp | Pro | Phe | Gly | Asp |
| | | | | | 115 | | | | | 120 | | | 125 | | |
| Val | Leu | Cys | Lys | Ile | Val | Ile | Ser | Ile | Asp | Tyr | Tyr | Asn | Met | Phe | Thr |
| | | | | | 130 | | | | | 135 | | | 140 | | |
| Ser | Ile | Phe | Thr | Leu | Thr | Met | Met | Ser | Val | Asp | Arg | Tyr | Ile | Ala | Val |
| 145 | | | | | | 150 | | | | | 155 | | | 160 | |
| Cys | His | Pro | Val | Lys | Ala | Leu | Asp | Phe | Arg | Thr | Pro | Leu | Lys | Ala | Lys |
| | | | | | 165 | | | | | 170 | | | 175 | | |
| Ile | Ile | Asn | Ile | Cys | Ile | Trp | Ile | Leu | Ala | Ser | Ser | Val | Gly | Ile | Ser |
| | | | | | 180 | | | | | 185 | | | 190 | | |
| Ala | Ile | Val | Leu | Gly | Gly | Thr | Lys | Val | Arg | Glu | Asp | Val | Asp | Val | Ile |
| | | | | | 195 | | | | | 200 | | | 205 | | |
| Glu | Cys | Ser | Leu | Gln | Phe | Pro | Asp | Asp | Glu | Tyr | Ser | Trp | Trp | Asp | Leu |
| | | | | | 210 | | | | | 215 | | | 220 | | |
| Phe | Met | Lys | Ile | Cys | Val | Phe | Val | Phe | Ala | Phe | Val | Ile | Pro | Val | Leu |
| 225 | | | | | | 230 | | | | | 235 | | | 240 | |
| Ile | Ile | Ile | Val | Cys | Tyr | Thr | Leu | Met | Ile | Leu | Arg | Leu | Lys | Ser | Val |
| | | | | | 245 | | | | | 250 | | | 255 | | |
| Arg | Leu | Leu | Ser | Gly | Ser | Arg | Glu | Lys | Asp | Arg | Asn | Leu | Arg | Arg | Ile |
| | | | | | 260 | | | | | 265 | | | 270 | | |
| Thr | Lys | Ile | Val | Leu | Val | Val | Ala | Val | Phe | Ile | Ile | Cys | Trp | Thr | |
| | | | | | 275 | | | | | 280 | | | 285 | | |
| Pro | Ile | His | Ile | Phe | Ile | Leu | Val | Glu | Ala | Leu | Gly | Ser | Thr | Ser | His |
| | | | | | 290 | | | | | 295 | | | 300 | | |
| Ser | Thr | Ala | Val | Leu | Ser | Ser | Tyr | Tyr | Phe | Cys | Ile | Ala | Leu | Gly | Tyr |
| 305 | | | | | | 310 | | | | | 315 | | | 320 | |
| Thr | Asn | Ser | Ser | Leu | Asn | Pro | Val | Leu | Tyr | Ala | Phe | Leu | Asp | Glu | Asn |
| | | | | | 325 | | | | | 330 | | | 335 | | |
| Phe | Lys | Arg | Cys | Phe | Arg | Asp | Phe | Cys | Phe | Pro | Ile | Lys | Met | Arg | Met |
| | | | | | 340 | | | | | 345 | | | 350 | | |
| Glu | Arg | Gln | Ser | Thr | Asn | Arg | Val | Arg | Asn | Thr | Val | Gln | Asp | Pro | Ala |

| 355 | 360 | 365 | |
|---|---------------------|-----|-----|
| Ser Met Arg Asp Val Gly Gly | Met Asn Lys Pro Val | | |
| 370 | 375 | 380 | |
| | | | |
| <210> 78 | | | |
| <211> 400 | | | |
| <212> PRT | | | |
| <213> Homo sapiens | | | |
| | | | |
| <400> 78 | | | |
| Met Asp Ser Ser Ala Ala Pro Thr Asn Ala Ser Asn Cys Thr Asp Ala | | | |
| 1 | 5 | 10 | 15 |
| Leu Ala Tyr Ser Ser Cys Ser Pro Ala Pro Ser Pro Gly Ser Trp Val | | | |
| 20 | 25 | 30 | |
| Asn Leu Ser His Leu Asp Gly Asn Leu Ser Asp Pro Cys Gly Pro Asn | | | |
| 35 | 40 | 45 | |
| Arg Thr Asp Leu Gly Gly Arg Asp Ser Leu Cys Pro Pro Thr Gly Ser | | | |
| 50 | 55 | 60 | |
| Pro Ser Met Ile Thr Ala Ile Thr Ile Met Ala Leu Tyr Ser Ile Val | | | |
| 65 | 70 | 75 | 80 |
| Cys Val Val Gly Leu Phe Gly Asn Phe Leu Val Met Tyr Val Ile Val | | | |
| 85 | 90 | 95 | |
| Arg Tyr Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu | | | |
| 100 | 105 | 110 | |
| Ala Leu Ala Asp Ala Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val | | | |
| 115 | 120 | 125 | |
| Asn Tyr Leu Met Gly Thr Trp Pro Phe Gly Thr Ile Leu Cys Lys Ile | | | |
| 130 | 135 | 140 | |
| Val Ile Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu | | | |
| 145 | 150 | 155 | 160 |
| Cys Thr Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys | | | |
| 165 | 170 | 175 | |
| Ala Leu Asp Phe Arg Thr Pro Arg Asn Ala Lys Ile Ile Asn Val Cys | | | |
| 180 | 185 | 190 | |
| Asn Trp Ile Leu Ser Ser Ala Ile Gly Ile Pro Val Met Phe Met Ala | | | |
| 195 | 200 | 205 | |
| Thr Thr Lys Tyr Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser | | | |
| 210 | 215 | 220 | |
| His Pro Thr Trp Tyr Trp Glu Asn Leu Asp Lys Ile Cys Val Phe Ile | | | |
| 225 | 230 | 235 | 240 |
| Phe Ala Phe Ile Met Pro Val Leu Ile Ile Thr Val Cys Tyr Gly Leu | | | |
| 245 | 250 | 255 | |
| Met Ile Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu | | | |
| 260 | 265 | 270 | |
| Lys Asp Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val | | | |
| 275 | 280 | 285 | |
| Ala Val Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile | | | |
| 290 | 295 | 300 | |
| Lys Ala Leu Val Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp | | | |
| 305 | 310 | 315 | 320 |
| His Phe Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val | | | |
| 325 | 330 | 335 | |
| Leu Tyr Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe | | | |
| 340 | 345 | 350 | |
| Cys Ile Pro Thr Ser Ser Asn Ile Glu Gln Gln Asn Ser Thr Arg Ile | | | |
| 355 | 360 | 365 | |
| Arg Gln Asn Thr Arg Asp His Pro Ser Thr Ala Asn Thr Val Asp Arg | | | |
| 370 | 375 | 380 | |

Thr Asn His Gln Leu Glu Asn Leu Glu Ala Glu Thr Ala Pro Leu Pro
385 390 395 400

<210> 79
<211> 398
<212> PRT
<213> Homo sapiens

<400> 79
Met Asp Ser Ser Thr Gly Pro Gly Asn Thr Ser Asp Cys Ser Asp Pro
1 5 10 15
Leu Ala Gln Ala Ser Cys Ser Pro Ala Pro Gly Ser Trp Leu Asn Leu
20 25 30
Ser His Val Asp Gly Asn Gln Ser Asp Pro Cys Gly Leu Asn Arg Thr
35 40 45
Gly Leu Gly Gly Asn Asp Ser Leu Cys Pro Gln Thr Gly Ser Pro Ser
50 55 60
Met Val Thr Ala Ile Thr Ile Met Ala Leu Tyr Ser Ile Val Cys Val
65 70 75 80
Val Gly Leu Phe Gly Asn Phe Leu Val Met Tyr Val Ile Val Arg Tyr
85 90 95
Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu
100 105 110
Ala Asp Ala Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val Asn Tyr
115 120 125
Leu Met Gly Thr Trp Pro Phe Gly Thr Ile Leu Cys Lys Ile Val Ile
130 135 140
Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Cys Thr
145 150 155 160
Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu
165 170 175
Asp Phe Arg Thr Pro Arg Asn Ala Lys Ile Val Asn Val Cys Asn Trp
180 185 190
Ile Leu Ser Ser Ala Ile Gly Ile Pro Val Met Phe Met Ala Thr Thr
195 200 205
Lys Tyr Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser His Pro
210 215 220
Thr Trp Tyr Trp Glu Asn Leu Leu Lys Ile Cys Val Phe Ile Phe Ala
225 230 235 240
Phe Ile Met Pro Val Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Ile
245 250 255
Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu Lys Asp
260 265 270
Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val Ala Val
275 280 285
Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile Lys Ala
290 295 300
Leu Ile Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp His Phe
305 310 315 320
Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val Leu Tyr
325 330 335
Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe Cys Ile
340 345 350
Pro Thr Ser Ser Thr Ile Glu Gln Gln Asn Ser Thr Arg Val Arg Gln
355 360 365
Asn Thr Arg Glu His Pro Ser Thr Ala Asn Thr Val Asp Arg Thr Asn
370 375 380
His Gln Leu Glu Asn Leu Glu Ala Glu Thr Ala Pro Leu Pro

385

390

395

<210> 80
<211> 372
<212> PRT
<213> Homo sapiens

<400> 80
Met Glu Pro Ala Pro Ser Ala Gly Ala Glu Leu Gln Pro Pro Leu Phe
1 5 10 15
Ala Asn Ala Ser Asp Ala Tyr Pro Ser Ala Cys Pro Ser Ala Gly Ala
20 25 30
Asn Ala Ser Gly Pro Pro Gly Ala Arg Ser Ala Ser Ser Leu Ala Leu
35 40 45
Ala Ile Ala Ile Thr Ala Leu Tyr Ser Ala Val Cys Ala Val Gly Leu
50 55 60
Leu Gly Asn Val Leu Val Met Phe Gly Ile Val Arg Tyr Thr Lys Met
65 70 75 80
Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu Ala Asp Ala
85 90 95
Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Ala Lys Tyr Leu Met Glu
100 105 110
Thr Trp Pro Phe Gly Glu Leu Leu Cys Lys Ala Val Ile Ser Ile Asp
115 120 125
Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Thr Met Met Ser Val
130 135 140
Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu Asp Phe Arg
145 150 155 160
Thr Pro Ala Lys Ala Lys Ile Ile Asn Ile Cys Ile Trp Val Leu Ala
165 170 175
Ser Gly Val Gly Val Pro Ile Met Val Met Ala Val Thr Arg Pro Arg
180 185 190
Asp Gly Ala Val Val Cys Met Leu Gln Phe Pro Ser Pro Ser Trp Tyr
195 200 205
Trp Asp Thr Val Thr Lys Ile Cys Val Phe Leu Phe Ala Phe Val Val
210 215 220
Pro Ile Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Leu Leu Arg Leu
225 230 235 240
Arg Ser Val Arg Leu Leu Ser Gly Ser Lys Glu Lys Asp Arg Ser Leu
245 250 255
Arg Arg Ile Thr Arg Met Val Leu Val Val Gly Ala Phe Val Val
260 265 270
Cys Trp Ala Pro Ile His Ile Phe Val Ile Val Trp Thr Leu Val Asp
275 280 285
Ile Asp Arg Arg Asp Pro Leu Val Val Ala Ala Leu His Leu Cys Ile
290 295 300
Ala Leu Gly Tyr Ala Asn Ser Ser Leu Asn Pro Val Leu Tyr Ala Phe
305 310 315 320
Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Gln Leu Cys Arg Lys Pro
325 330 335
Cys Gly Arg Pro Asp Pro Ser Ser Phe Ser Arg Ala Arg Glu Ala Thr
340 345 350
Ala Arg Glu Arg Val Thr Ala Cys Thr Pro Ser Asp Gly Pro Gly Gly
355 360 365
Gly Ala Ala Ala
370

<210> 81
<211> 359
<212> PRT
<213> Homo sapiens

<400> 81
Met Ala Leu Asn Ser Ser Ala Glu Asp Gly Ile Lys Arg Ile Gln Asp
1 5 10 15
Asp Cys Pro Lys Ala Gly Arg His Ser Tyr Ile Phe Val Met Ile Pro
20 25 30
Thr Leu Tyr Ser Ile Ile Phe Val Val Gly Ile Phe Gly Asn Ser Leu
35 40 45
Val Val Ile Val Ile Tyr Phe Tyr Met Lys Leu Lys Thr Val Ala Ser
50 55 60
Val Phe Leu Leu Asn Leu Ala Asp Leu Cys Phe Leu Leu Thr
65 70 75 80
Leu Pro Leu Trp Ala Val Tyr Thr Ala Met Glu Tyr Arg Trp Pro Phe
85 90 95
Gly Asn His Leu Cys Lys Ile Ala Ser Ala Ser Val Thr Glu Asn Leu
100 105 110
Tyr Ala Ser Val Phe Leu Leu Thr Cys Leu Ser Ile Asp Arg Tyr Leu
115 120 125
Ala Ile Val His Pro Met Lys Ser Arg Leu Arg Arg Thr Met Leu Val
130 135 140
Ala Lys Val Thr Cys Ile Ile Ile Trp Leu Met Ala Gly Leu Ala Ser
145 150 155 160
Leu Pro Ala Val Ile His Arg Asn Val Tyr Phe Ile Glu Asn Thr Asn
165 170 175
Ile Thr Val Cys Ala Phe His Tyr Glu Ser Arg Asn Ser Thr Leu Pro
180 185 190
Ile Gly Leu Gly Leu Thr Lys Asn Ile Leu Gly Phe Leu Phe Pro Phe
195 200 205
Leu Ile Ile Ile Thr Ser Tyr Thr Leu Ile Trp Lys Ala Leu Lys Lys
210 215 220
Ala Tyr Glu Ile Gln Lys Asn Lys Pro Arg Asn Asp Asp Ile Phe Arg
225 230 235 240
Ile Ile Met Ala Ile Val Leu Phe Phe Phe Ser Trp Val Pro His
245 250 255
Gln Ile Phe Thr Phe Leu Asp Val Leu Ile Gln Leu Gly Val Ile His
260 265 270
Asp Cys Lys Ile Ser Asp Ile Val Asp Thr Ala Met Pro Ile Thr Ile
275 280 285
Cys Ile Ala Tyr Phe Asn Asn Cys Leu Asn Pro Leu Phe Tyr Gly Phe
290 295 300
Leu Gly Lys Lys Phe Lys Lys Tyr Phe Leu Gln Leu Leu Lys Tyr Ile
305 310 315 320
Pro Pro Lys Ala Lys Ser His Ser Ser Leu Ser Thr Lys Met Ser Thr
325 330 335
Leu Ser Tyr Arg Pro Ser Asp Asn Met Ser Ser Ser Ala Lys Lys Pro
340 345 350
Ala Ser Cys Phe Glu Val Glu
355

<210> 82
<211> 391
<212> PRT
<213> Homo sapiens

<400> 82

Met Phe Ser Pro Trp Lys Ile Ser Met Phe Leu Ser Val Arg Glu Asp
1 5 10 15
Ser Val Pro Thr Thr Ala Ser Phe Ser Ala Asp Met Leu Asn Val Thr
20 25 30
Leu Gln Gly Pro Thr Leu Asn Gly Thr Phe Ala Gln Ser Lys Cys Pro
35 40 45
Gln Val Glu Trp Leu Gly Trp Leu Asn Thr Ile Gln Pro Pro Phe Leu
50 55 60
Trp Val Ile Phe Val Leu Ala Thr Leu Glu Asn Ile Phe Val Leu Ser
65 70 75 80
Val Phe Cys Leu His Lys Ser Ser Cys Thr Val Ala Glu Ile Tyr Leu
85 90 95
Gly Asn Leu Ala Ala Ala Asp Leu Ile Leu Ala Cys Gly Leu Pro Phe
100 105 110
Trp Ala Ile Thr Ile Ser Asn Asn Phe Asp Trp Leu Phe Gly Glu Thr
115 120 125
Leu Cys Arg Val Val Asn Ala Ile Ile Ser Met Asn Leu Tyr Ser Ser
130 135 140
Ile Cys Phe Leu Met Leu Val Ser Ile Asp Arg Tyr Leu Ala Leu Val
145 150 155 160
Lys Thr Met Ser Met Gly Arg Met Arg Gly Val Arg Trp Ala Lys Leu
165 170 175
Tyr Ser Leu Val Ile Trp Gly Cys Thr Leu Leu Ser Ser Pro Met
180 185 190
Leu Val Phe Arg Thr Met Lys Glu Tyr Ser Asp Glu Gly His Asn Val
195 200 205
Thr Ala Cys Val Ile Ser Tyr Pro Ser Leu Ile Trp Glu Val Phe Thr
210 215 220
Asn Met Leu Leu Asn Val Val Gly Phe Leu Leu Pro Leu Ser Val Ile
225 230 235 240
Thr Phe Cys Thr Met Gln Ile Met Gln Val Leu Arg Asn Asn Glu Met
245 250 255
Gln Lys Phe Lys Glu Ile Gln Thr Glu Arg Arg Ala Thr Val Leu Val
260 265 270
Leu Val Val Leu Leu Phe Ile Ile Cys Trp Leu Pro Phe Gln Ile
275 280 285
Ser Thr Phe Leu Asp Thr Leu His Arg Leu Gly Ile Leu Ser Ser Cys
290 295 300
Gln Asp Glu Arg Ile Ile Asp Val Ile Thr Gln Ile Ala Ser Phe Met
305 310 315 320
Ala Tyr Ser Asn Ser Cys Leu Asn Pro Leu Val Tyr Val Ile Val Gly
325 330 335
Lys Arg Phe Arg Lys Lys Ser Trp Glu Val Tyr Gln Gly Val Cys Gln
340 345 350
Lys Gly Gly Cys Arg Ser Glu Pro Ile Gln Met Glu Asn Ser Met Gly
355 360 365
Thr Leu Arg Thr Ser Ile Ser Val Glu Arg Gln Ile His Lys Leu Gln
370 375 380
Asp Trp Ala Gly Ser Arg Gln
385 390

<210> 83

<211> 398

<212> PRT

<213> Homo sapiens

<400> 83

Met Asp Ser Ser Ala Gly Pro Gly Asn Ile Ser Asp Cys Ser Asp Pro
 1 5 10 15
 Leu Ala Pro Ala Ser Cys Ser Pro Ala Pro Gly Ser Trp Leu Asn Leu
 20 25 30
 Ser His Val Asp Gly Asn Gln Ser Asp Pro Cys Gly Pro Asn Arg Thr
 35 40 45
 Gly Leu Gly Gly Ser His Ser Leu Cys Pro Gln Thr Gly Ser Pro Ser
 50 55 60
 Met Val Thr Ala Ile Thr Ile Met Ala Leu Tyr Ser Ile Val Cys Val
 65 70 75 80
 Val Gly Leu Phe Gly Asn Phe Leu Val Met Tyr Val Ile Val Arg Tyr
 85 90 95
 Thr Lys Met Lys Thr Ala Thr Asn Ile Tyr Ile Phe Asn Leu Ala Leu
 100 105 110
 Ala Asp Ala Leu Ala Thr Ser Thr Leu Pro Phe Gln Ser Val Asn Tyr
 115 120 125
 Leu Met Gly Thr Trp Pro Phe Gly Asn Ile Leu Cys Lys Ile Val Ile
 130 135 140
 Ser Ile Asp Tyr Tyr Asn Met Phe Thr Ser Ile Phe Thr Leu Cys Thr
 145 150 155 160
 Met Ser Val Asp Arg Tyr Ile Ala Val Cys His Pro Val Lys Ala Leu
 165 170 175
 Asp Phe Arg Thr Pro Arg Asn Ala Lys Ile Val Asn Val Cys Asn Trp
 180 185 190
 Ile Leu Ser Ser Ala Ile Gly Leu Pro Val Met Phe Met Ala Thr Thr
 195 200 205
 Lys Tyr Arg Gln Gly Ser Ile Asp Cys Thr Leu Thr Phe Ser His Pro
 210 215 220
 Thr Trp Tyr Trp Glu Asn Leu Leu Lys Ile Cys Val Phe Ile Phe Ala
 225 230 235 240
 Phe Ile Met Pro Val Leu Ile Ile Thr Val Cys Tyr Gly Leu Met Ile
 245 250 255
 Leu Arg Leu Lys Ser Val Arg Met Leu Ser Gly Ser Lys Glu Lys Asp
 260 265 270
 Arg Asn Leu Arg Arg Ile Thr Arg Met Val Leu Val Val Val Ala Val
 275 280 285
 Phe Ile Val Cys Trp Thr Pro Ile His Ile Tyr Val Ile Ile Lys Ala
 290 295 300
 Leu Ile Thr Ile Pro Glu Thr Thr Phe Gln Thr Val Ser Trp His Phe
 305 310 315 320
 Cys Ile Ala Leu Gly Tyr Thr Asn Ser Cys Leu Asn Pro Val Leu Tyr
 325 330 335
 Ala Phe Leu Asp Glu Asn Phe Lys Arg Cys Phe Arg Glu Phe Cys Ile
 340 345 350
 Pro Thr Ser Ser Thr Ile Glu Gln Gln Asn Ser Ala Arg Ile Arg Gln
 355 360 365
 Asn Thr Arg Glu His Pro Ser Thr Ala Asn Thr Val Asp Arg Thr Asn
 370 375 380
 His Gln Leu Glu Asn Leu Glu Ala Glu Thr Ala Pro Leu Pro
 385 390 395

<210> 84
 <211> 405
 <212> PRT
 <213> Homo sapiens

<400> 84
 Met Asp Ser Gly Ala Val Pro Thr Asn Ala Ser Asn Cys Ile Asp Pro

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 5 | 10 | 15 | | | | | | | | | | | | |
| Phe | Thr | His | Pro | Ser | Ser | Cys | Ser | Pro | Ala | Pro | Ser | Pro | Ser | Ser | Trp |
| 20 | | | | | | | | | | | | | | | 30 |
| Val | Asn | Phe | Ser | His | Leu | Glu | Gly | Asn | Leu | Ser | Asp | Pro | Cys | Gly | Pro |
| 35 | | | | | | | | | | | | | | | 45 |
| Asn | Arg | Thr | Glu | Leu | Gly | Gly | Ser | Asp | Arg | Leu | Cys | Pro | Ser | Ala | Gly |
| 50 | | | | | | | | | | | | | | | 60 |
| Ser | Pro | Ser | Met | Ile | Thr | Ala | Met | Val | Thr | Ala | Ile | Ile | Met | Ala | |
| 65 | | | | | | | | | | | | | | | 80 |
| Leu | Tyr | Ser | Ile | Val | Cys | Val | Val | Gly | Leu | Phe | Gly | Asn | Phe | Leu | Val |
| 85 | | | | | | | | | | | | | | | 95 |
| Met | Tyr | Val | Ile | Val | Arg | Tyr | Thr | Lys | Met | Lys | Thr | Ala | Thr | Asn | Ile |
| 100 | | | | | | | | | | | | | | | 110 |
| Tyr | Ile | Phe | Asn | Leu | Ala | Leu | Ala | Asp | Ala | Leu | Ala | Thr | Ser | Thr | Leu |
| 115 | | | | | | | | | | | | | | | 125 |
| Pro | Phe | Gln | Ser | Val | Asn | Tyr | Leu | Met | Gly | Thr | Trp | Pro | Phe | Gly | Thr |
| 130 | | | | | | | | | | | | | | | 140 |
| Ile | Leu | Cys | Lys | Ile | Val | Ile | Ser | Ile | Asp | Tyr | Tyr | Asn | Met | Phe | Thr |
| 145 | | | | | | | | | | | | | | | 160 |
| Ser | Ile | Phe | Thr | Leu | Cys | Thr | Met | Ser | Val | Asp | Arg | Tyr | Ile | Ala | Val |
| 165 | | | | | | | | | | | | | | | 175 |
| Cys | His | Pro | Val | Lys | Ala | Leu | Asp | Leu | Arg | Thr | Pro | Arg | Asn | Ala | Lys |
| 180 | | | | | | | | | | | | | | | 190 |
| Ile | Ile | Asn | Ile | Cys | Asn | Trp | Ile | Leu | Ser | Ser | Ala | Ile | Gly | Leu | Pro |
| 195 | | | | | | | | | | | | | | | 205 |
| Val | Met | Phe | Met | Ala | Thr | Thr | Lys | Tyr | Arg | Gln | Gly | Ser | Ile | Asp | Cys |
| 210 | | | | | | | | | | | | | | | 220 |
| Thr | Leu | Thr | Phe | Ser | His | Pro | Thr | Trp | Tyr | Trp | Glu | Asn | Leu | Leu | Lys |
| 225 | | | | | | | | | | | | | | | 240 |
| Ile | Cys | Val | Phe | Ile | Phe | Ala | Phe | Ile | Met | Pro | Ile | Leu | Ile | Ile | Thr |
| 245 | | | | | | | | | | | | | | | 255 |
| Val | Cys | Tyr | Gly | Leu | Met | Ile | Leu | Arg | Leu | Lys | Ser | Val | Arg | Met | Leu |
| 260 | | | | | | | | | | | | | | | 270 |
| Ser | Gly | Ser | Lys | Glu | Lys | Asp | Arg | Asn | Leu | Arg | Arg | Ile | Thr | Arg | Met |
| 275 | | | | | | | | | | | | | | | 285 |
| Val | Leu | Val | Val | Val | Ala | Val | Phe | Ile | Val | Cys | Trp | Thr | Pro | Ile | His |
| 290 | | | | | | | | | | | | | | | 300 |
| Ile | Tyr | Val | Ile | Ile | Lys | Ala | Leu | Ile | Thr | Ile | Pro | Glu | Thr | Thr | Phe |
| 305 | | | | | | | | | | | | | | | 320 |
| Gln | Thr | Val | Ser | Trp | His | Phe | Cys | Ile | Ala | Leu | Gly | Tyr | Thr | Asn | Ser |
| 325 | | | | | | | | | | | | | | | 335 |
| Cys | Leu | Asn | Pro | Val | Leu | Tyr | Ala | Phe | Leu | Asp | Glu | Asn | Phe | Lys | Arg |
| 340 | | | | | | | | | | | | | | | 350 |
| Cys | Phe | Arg | Glu | Phe | Cys | Ile | Pro | Thr | Ser | Ser | Thr | Ile | Glu | Gln | Gln |
| 355 | | | | | | | | | | | | | | | 365 |
| Asn | Ser | Thr | Arg | Ile | Arg | Gln | Asn | Thr | Arg | Asp | His | Pro | Ser | Thr | Ala |
| 370 | | | | | | | | | | | | | | | 380 |
| Asn | Thr | Val | Asp | Arg | Thr | Asn | His | Gln | Leu | Glu | Asn | Leu | Glu | Ala | Glu |
| 385 | | | | | | | | | | | | | | | 400 |
| Thr | Thr | Pro | Leu | Pro | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 405 |

<210> 85
<211> 400
<212> PRT
<213> Homo sapiens

<400> 85

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Ser | Ser | Ala | Ala | Pro | Thr | Asn | Ala | Ser | Asn | Cys | Thr | Asp | Ala |
| 1 | | | | 5 | | | | | 10 | | | | | | 15 |
| Leu | Ala | Tyr | Ser | Ser | Cys | Ser | Pro | Ala | Pro | Ser | Pro | Gly | Ser | Trp | Val |
| | | | | 20 | | | | 25 | | | | | | 30 | |
| Asn | Leu | Ser | His | Leu | Asp | Gly | Asn | Leu | Ser | Asp | Pro | Cys | Gly | Pro | Asn |
| | | | | 35 | | | | 40 | | | | 45 | | | |
| Arg | Thr | Asp | Leu | Gly | Gly | Arg | Asp | Ser | Leu | Cys | Pro | Pro | Thr | Gly | Ser |
| | | | | 50 | | | | 55 | | | | 60 | | | |
| Pro | Ser | Met | Ile | Thr | Ala | Ile | Thr | Ile | Met | Ala | Leu | Tyr | Ser | Ile | Val |
| | | | | | 65 | | | 70 | | | 75 | | | 80 | |
| Cys | Val | Val | Gly | Leu | Phe | Gly | Asn | Phe | Leu | Val | Met | Tyr | Val | Ile | Val |
| | | | | | 85 | | | | 90 | | | | 95 | | |
| Arg | Tyr | Thr | Lys | Met | Lys | Thr | Ala | Thr | Asn | Ile | Tyr | Ile | Phe | Asn | Leu |
| | | | | 100 | | | | 105 | | | | | 110 | | |
| Ala | Leu | Ala | Asp | Ala | Leu | Ala | Thr | Ser | Thr | Leu | Pro | Phe | Gln | Ser | Val |
| | | | | 115 | | | | 120 | | | | 125 | | | |
| Asn | Tyr | Leu | Met | Gly | Thr | Trp | Pro | Phe | Gly | Thr | Ile | Leu | Cys | Lys | Ile |
| | | | | 130 | | | | 135 | | | | 140 | | | |
| Val | Ile | Ser | Ile | Asp | Tyr | Tyr | Asn | Met | Phe | Thr | Ser | Ile | Phe | Thr | Leu |
| | | | | | 145 | | | 150 | | | 155 | | | 160 | |
| Cys | Thr | Met | Ser | Val | Asp | Arg | Tyr | Ile | Ala | Val | Cys | His | Pro | Val | Lys |
| | | | | | 165 | | | | 170 | | | | 175 | | |
| Ala | Leu | Asp | Phe | Arg | Thr | Pro | Arg | Asn | Ala | Lys | Ile | Ile | Asn | Val | Cys |
| | | | | 180 | | | | 185 | | | | 190 | | | |
| Asn | Trp | Ile | Leu | Ser | Ser | Ala | Ile | Gly | Leu | Pro | Val | Met | Phe | Met | Ala |
| | | | | | 195 | | | 200 | | | | 205 | | | |
| Thr | Thr | Lys | Tyr | Arg | Gln | Gly | Ser | Ile | Asp | Cys | Thr | Leu | Thr | Phe | Ser |
| | | | | 210 | | | | 215 | | | | 220 | | | |
| His | Pro | Thr | Trp | Tyr | Trp | Glu | Asn | Leu | Leu | Lys | Ile | Cys | Val | Phe | Ile |
| | | | | | 225 | | | 230 | | | 235 | | | 240 | |
| Phe | Ala | Phe | Ile | Met | Pro | Val | Leu | Ile | Ile | Thr | Val | Cys | Tyr | Gly | Leu |
| | | | | | 245 | | | | 250 | | | | 255 | | |
| Met | Ile | Leu | Arg | Leu | Lys | Ser | Val | Arg | Met | Leu | Ser | Gly | Ser | Lys | Glu |
| | | | | | 260 | | | | 265 | | | | 270 | | |
| Lys | Asp | Arg | Asn | Leu | Arg | Arg | Ile | Thr | Arg | Met | Val | Leu | Val | Val | Val |
| | | | | | 275 | | | | 280 | | | | 285 | | |
| Ala | Val | Phe | Ile | Val | Cys | Trp | Thr | Pro | Ile | His | Ile | Tyr | Val | Ile | Ile |
| | | | | | 290 | | | 295 | | | | 300 | | | |
| Lys | Ala | Leu | Val | Thr | Ile | Pro | Glu | Thr | Thr | Phe | Gln | Thr | Val | Ser | Trp |
| | | | | | 305 | | | 310 | | | 315 | | | 320 | |
| His | Phe | Cys | Ile | Ala | Leu | Gly | Tyr | Thr | Asn | Ser | Cys | Leu | Asn | Pro | Val |
| | | | | | 325 | | | | 330 | | | | 335 | | |
| Leu | Tyr | Ala | Phe | Leu | Asp | Glu | Asn | Phe | Lys | Arg | Cys | Phe | Arg | Glu | Phe |
| | | | | | 340 | | | | 345 | | | | 350 | | |
| Cys | Ile | Pro | Thr | Ser | Ser | Asn | Ile | Glu | Gln | Gln | Asn | Ser | Thr | Arg | Ile |
| | | | | | 355 | | | | 360 | | | | 365 | | |
| Arg | Gln | Asn | Thr | Arg | Asp | His | Pro | Ser | Thr | Ala | Asn | Thr | Val | Asp | Arg |
| | | | | 370 | | | | 375 | | | | 380 | | | |
| Thr | Asn | His | Gln | Leu | Glu | Asn | Leu | Glu | Ala | Glu | Thr | Ala | Pro | Leu | Pro |
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| 1 | 5 | 10 | 15 | | | | | | | | | | | | |
| Phe | Ser | Pro | Ser | Ser | Met | Cys | Ser | Pro | Val | Pro | Ser | Pro | Ser | Ser | Trp |
| | | | | | 20 | | | 25 | | | | | | | 30 |
| Val | Asn | Phe | Ser | His | Leu | Glu | Gly | Asn | Leu | Ser | Asp | Pro | Cys | Ile | Arg |
| | | | | | 35 | | | 40 | | | | | | | 45 |
| Asn | Arg | Thr | Glu | Leu | Gly | Gly | Ser | Asp | Ser | Leu | Cys | Pro | Pro | Thr | Gly |
| | | | | | 50 | | | 55 | | | | | | | 60 |
| Ser | Pro | Ser | Met | Val | Thr | Ala | Ile | Thr | Ile | Met | Ala | Leu | Tyr | Ser | Ile |
| | | | | | 65 | | | 70 | | | 75 | | | | 80 |
| Val | Cys | Val | Val | Gly | Leu | Phe | Gly | Asn | Phe | Leu | Val | Met | Tyr | Val | Ile |
| | | | | | 85 | | | 90 | | | | | | | 95 |
| Val | Arg | Tyr | Thr | Lys | Met | Lys | Thr | Ala | Thr | Asn | Ile | Tyr | Ile | Phe | Asn |
| | | | | | 100 | | | 105 | | | | | | | 110 |
| Leu | Ala | Leu | Ala | Asp | Ala | Leu | Ala | Thr | Ser | Thr | Leu | Pro | Phe | Gln | Ser |
| | | | | | 115 | | | 120 | | | | | | | 125 |
| Val | Asn | Tyr | Leu | Met | Gly | Thr | Trp | Pro | Phe | Gly | Thr | Ile | Leu | Cys | Lys |
| | | | | | 130 | | | 135 | | | | | | | 140 |
| Ile | Val | Ile | Ser | Ile | Asp | Tyr | Tyr | Asn | Met | Phe | Thr | Ser | Ile | Phe | Thr |
| | | | | | 145 | | | 150 | | | 155 | | | | 160 |
| Leu | Cys | Thr | Met | Ser | Val | Asp | Arg | Tyr | Ile | Ala | Val | Cys | His | Pro | Val |
| | | | | | 165 | | | 170 | | | | | | | 175 |
| Lys | Ala | Leu | Asp | Phe | Arg | Thr | Pro | Arg | Asn | Ala | Lys | Ile | Ile | Asn | Val |
| | | | | | 180 | | | 185 | | | | | | | 190 |
| Cys | Asn | Trp | Ile | Leu | Ser | Ser | Ala | Ile | Gly | Leu | Pro | Val | Met | Phe | Met |
| | | | | | 195 | | | 200 | | | | | | | 205 |
| Ala | Thr | Thr | Lys | Tyr | Arg | Asn | Gly | Ser | Ile | Asp | Cys | Ala | Leu | Thr | Phe |
| | | | | | 210 | | | 215 | | | | | | | 220 |
| Ser | His | Pro | Thr | Trp | Tyr | Trp | Glu | Asn | Leu | Leu | Lys | Ile | Cys | Val | Phe |
| | | | | | 225 | | | 230 | | | 235 | | | | 240 |
| Ile | Phe | Ala | Phe | Ile | Met | Pro | Val | Leu | Ile | Ile | Thr | Val | Cys | Tyr | Gly |
| | | | | | 245 | | | 250 | | | | | | | 255 |
| Leu | Met | Ile | Leu | Arg | Leu | Lys | Ser | Val | Arg | Met | Leu | Ser | Gly | Ser | Lys |
| | | | | | 260 | | | 265 | | | | | | | 270 |
| Glu | Lys | Asp | Arg | Asn | Leu | Arg | Arg | Ile | Thr | Arg | Met | Val | Leu | Val | Val |
| | | | | | 275 | | | 280 | | | | | | | 285 |
| Val | Ala | Val | Phe | Ile | Val | Cys | Trp | Thr | Pro | Ile | His | Ile | Tyr | Val | Ile |
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| Ile | Lys | Ala | Leu | Ile | Thr | Ile | Pro | Glu | Thr | Thr | Phe | Gln | Thr | Val | Ser |
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| Trp | His | Phe | Cys | Ile | Ala | Leu | Gly | Tyr | Thr | Asn | Ser | Cys | Leu | Asn | Pro |
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| | | | | | 370 | | | 375 | | | | | | | 380 |
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